

1 What is claimed is:

2 CLAIM

3 1. An apparatus for measuring dimensions of an object comprising:

4 (A) a source of microwave signals having a predetermined amplitude and
5 frequency,

6 (B) transmitting means for radiating said microwave signals,

7 (C) receiving means for receiving said microwave signals, and

8 (D) processor means for evaluating such received signals.

9 2. The apparatus of Claim 1, in which

10 such transmitting means comprises an antenna array of a plurality of miniaturized
11 antennas.

12 3. The apparatus of Claim 2, in which

13 such miniature antennas are horizontally polarized

14 4. The apparatus of Claim 1, in which

15 such receiving means comprises an antenna array of a plurality of miniaturized
16 antennas.

17 5. The apparatus of Claim 4, in which

18 such miniature antennas are horizontally polarized.

19 6. The apparatus of Claim 1, wherein

20 such transmitting means and such receiving means are formed in a linear
21 configuration.

22 7. The apparatus of Claim 1, wherein

23 such transmitting means and such receiving means are formed in a circular
24 configuration.

25 8. The apparatus of Claim 1, in which

26 such processor means calculates one or more of the following measurements:

27 (A) height;

28 (B) head size;

29 (C) neck;

30 (D) chest;

31 (E) waist;

32 (F) hips;

33 (G) inseam; and

34 (H) sleeve.

35 9. The apparatus of Claim 1, wherein

36 such object being measured comprises a human being.

37 10. The apparatus of Claim 1, wherein such processor means comprises a computer.

38 11. The apparatus of Claim 1 further comprising:

39 (A) at least one server unit;

40 (B) a means for relaying said measured dimensions from said processor means
41 to said at least one server unit; and

42 (C) a means for relaying said measured dimensions from said at least one
43 server unit to at least one user.

44 12. A method for measuring the size and shape of an object using microwave signals,
45 comprising:

- 46 (A) providing an apparatus for transmitting and receiving a microwave signal;
47 (B) locating said object relative to the apparatus;
48 (C) transmitting said microwave signal towards the object using said apparatus
49 and causing said transmitted signal to be incident on the object;
50 (D) receiving said microwave signal not absorbed by the object;
51 (E) extracting information from said received signal; and
52 (F) determining at least one measurement value using said extracted
53 information from said received signal.

54 13. The method of Claim 12, wherein

55 such object being measured comprises a human being.

56 14. The method of Claim 12, in which

57 such at least one measurement value is selected from the group consisting of:

- 58 (A) height;
59 (B) head size;
60 (C) neck;
61 (D) chest;
62 (E) waist;
63 (F) hips;
64 (G) inseam; and
65 (H) sleeve.

66 15. The method of Claim 12, further comprising the step of communicating said
67 extracted information to at least one user.

- 68 16. The method of Claim 15, wherein such step for communicating said extracted
69 information is performed by a communication system comprising:
70 (A) at least one server unit;
71 (B) a means for relaying said measured dimensions from said processor means
72 to said at least one server unit; and
73 (C) a means for relaying said measured dimensions from said at least one
74 server unit to said at least one user.
- 75 17. A method of measuring the dimensions of an object comprising:
76 generating microwaves,
77 directing the microwaves toward said object,
78 measuring the unabsorbed microwave energy, and
79 determining the size and shape of said object from said unabsorbed microwave
80 energy.
- 81 18. The method of Claim 17, wherein
82 such object being measured comprises a human being.
- 83 19. The method of claim 17, in which
84 said microwaves are generated by an oscillator for generating microwaves of a
85 predetermined frequency in the microwave region chosen for maximum absorption by the
86 object.